

REMARKS

Claims 1, 2 and 4 – 20 remain for consideration. At this time the definition of cross-linking agent (B-1) has been further amended to more fully distinguish it over the comparative disclosure of a resole resin as is pointed out by the Examiner in the primary reference of Tao. This results in a portion of claim 8 being added to claim 1.

The 35 U.S.C. 103(a) rejection over Tao in view of Shultz et al

Claims 1, 2 and 4 – 20 stand rejected under 35 U.S.C. 103(a) as obvious to the skilled artisan over Tao in view of Shultz et al.

The present invention relates to a resist composition for forming very fine patterns for semiconductor use, especially for those imaging systems where electron beams or X-rays are employed; as a result, the present invention is very different from the practical environment of Tao. Tao does not teach or suggest to the skilled artisan compositions and methods for obtaining the high degree of resolution in the present invention, as explained more fully below.

In Tao, particularly Example 4 noted by the Examiner, the cross-linking agents are a resole resin and terephthaldicarboxaldehyde, neither of which corresponds to Applicant's cross-linking agents (B-1) and (B-2). The resole resin could be considered as phenol-based, but would not otherwise fit the definition of cross-linking agent (B-1) requiring that it not be a resin and have a molecular weight of 2,000 or below.

As is clear from Tao's Examples, claims and column 4 disclosure, Tao is directed to and concerned with lithographic plates. Indeed, the compositions of Tao must contain an infrared absorbing compound, which is required and is essential for lithographic printing plates, but

which is not essential for resist compositions like those of the present invention. Tao merely mentions “microelectronic” in passing, but provides no teachings on how to achieve highly fine patterns using a resist for electron beam or X-ray patterning. Tao does not consider at all anything about highly fine patterns for semiconductor use. The mere mention of “microelectronic” can not override the remaining 99%+ disclosure of Tao which is irrelevant to production of highly fine patterns in the semiconductor area. This is clear from the Example 4 teachings of Tao where a resinous cross-linking agent is employed, which is entirely different from the blend of cross-linking agents used in the present invention.

In summary on Tao, Applicant must earnestly submit that Tao is silent on methods for improving the highly fine patterns involved in resists for semiconductor use with electron beams and X-rays as in the present invention. Tao does not teach or suggest the specific blend of cross-linking agents as set forth in claim 1, for use in resists of the type involved in the present invention. Furthermore, Tao does not require the inclusion of a nitrogen-containing basic compound, as specified in claim 1. The environment of Tao is that of lithographic printing plates and would not even be consulted by the skilled artisan working in the environment of the present invention, and certainly not for improving resist compositions within the technical field of the present invention.

The secondary reference of Shultz et al is cited as disclosing nitrogen-containing basic compounds in negative working resists. Schultz et al requires the presence of an iodonium salt. It is this teaching that the skilled artisan would consult if the skilled artisan were for some reason considering the Shultz et al reference. But one working in the lithographic plate area of Tao

would not add any of the ingredients of Shultz et al to Tao because Tao is complete within itself. To pick and choose ingredients as the Examiner has done is nothing other than a hindsight attempt at reconstruction of the present invention with the present invention in mind, which is impermissible.

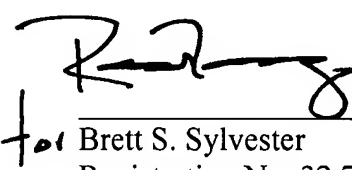
Furthermore, even if the references were combined as urged by the Examiner, still the instant invention would not result. In this regard, in the paragraph bridging pages 4 and 5 and in the first full paragraph on page 5 of the Office Action, the Examiner states it would have been prima facie obvious to use two cross-linking agents as in Tao Example 4 with substituting a melamine for the terephthalaldehyde and to add the basic compounds of Shultz et al thereto. Of course, this amounts to a blend of resinous cross-linking agents, that is the resole resin of Example 4 of Tao plus a melamine resin, which is very different from the blend of cross-linking agents (B-1) and (B-2) of the present claims. Therefore, even if the references were combined as urged by the Examiner, which Applicant must submit would not even be the case for the reasons discussed above, still the combination does not produce the claimed invention.

In conclusion, Applicant respectfully submits: (1) the art of Tao would not be consulted by the skilled artisan working in the field of the present invention and (2) the combination of the references as combined by the Examiner does not result in the claimed invention.

Amendment Under 37 C.F.R. § 1.111
U.S. Appl. No.: 10/642,291

If any minor points remain prior to allowance, the Examiner is requested to contact the undersigned at the listed phone number. Any fee except for the Issue fee and the Publication Fee may be charged to Deposit Account No. 19-4880, and any overpayment can be credited to that account.

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